Pending Claims

1. **(Previously presented)** A method for detecting multidrug resistance or multidrug resistance potential in a test neoplastic cell, comprising:

a) measuring a level of cell surface-expressed vimentin protein in the test neoplastic cell of a given origin or cell type, and

b) comparing the level of cell surface-expressed vimentin protein in the test neoplastic cell to the level of cell surface-expressed vimentin in a nonresistant neoplastic cell of the same origin or cell type,

wherein the test neoplastic cell is multidrug resistant or has multidrug resistance potential if the level of cell surface-expressed vimentin in the test neoplastic cell is greater than the level of cell surface-expressed vimentin in the nonresistant neoplastic cell of the same given origin or cell type.

2. **(Previously presented)** The method of claim 1, wherein measuring the level of cell surface-expressed vimentin in the test neoplastic cell comprises isolating a cytoplasmic membrane fraction from the cell and measuring the level of vimentin in the cytoplasmic membrane fraction.

3. **(Previously presented)** The method of claim 1, wherein measuring the level of cell surface-expressed vimentin in the test neoplastic cell comprises contacting said cell with an anti-vimentin antibody and measuring the level of antibody bound to cell surface vimentin.

4. **(Previously presented)** The method of claim 3, wherein measuring the level of antibody bound to cell surface vimentin is by immunofluorescence emission.

5. **(Previously presented)** The method of claim 3, wherein measuring the level of antibody bound to cell surface vimentin is by radiolabel.

6. **(Previously presented)** The method of claim 1, wherein the test neoplastic cell is selected from the group consisting of a promyleocytic leukemia cell, a T lymphoblastoid cell, a breast epithelial cell, and an ovarian cell.

7. **(Previously presented)** The method of claim 1, wherein the nonresistant neoplastic cell is from a drug-sensitive cell line selected from the group consisting of HL60, NB4, CEM, HSB2 Molt4, MCF-7, MDA, SKOV-3, and 2008.

8. **(Previously presented)** The method of claim 1, wherein the test neoplastic cell is selected from the group consisting of a lymphoma cell, a melanoma cell, a sarcoma cell, a leukemia cell, a retinoblastoma cell, a hepatoma cell, a myeloma cell, a glioma cell, a mesothelioma cell, and a carcinoma cell.

9. **(Previously presented)** The method of claim 1, wherein the test neoplastic cell is from a tissue selected from the group consisting of blood, bone marrow, spleen, lymph node, liver, thymus, kidney, brain, skin, gastrointestinal tract, eye, breast, prostate, and ovary.

10. **(Previously presented)** A method for detecting a multidrug resistant cell in a patient comprising:

(a) administering to the patient, a vimentin binding agent operably linked to a detectable label; and

(b) detecting the label operably linked to the vimentin binding agent,

wherein the vimentin-binding agent specifically binds to cell surface-expressed vimentin present on a multidrug resistant cell in the patient.

12. **(Previously presented)** The method of claim 10, wherein the vimentin binding agent is selected from the group consisting of modified LDL, NLK1 protein, vimentin, desmin, glial fibrillary acidic protein, and peripherin, fimbrin, RhoA-binding kinase alpha, and protein phosphatase 2A.

14. **(Previously presented)** The method of claim 10, wherein the detectable label is selected from the group consisting of fluorophores, chemical dyes, radioactive compounds, chemoluminescent compounds, magnetic compounds, paramagnetic compounds, promagnetic compounds, enzymes that yield a colored product, enzymes that yield a chemoluminescent product, and enzymes that yield a magnetic product.

15. **(Previously presented)** The method of claim 14, wherein the multidrug resistant cell is a neoplastic cell.

16. **(Previously presented)** The method of claim 15, wherein the neoplastic cell is selected from the group consisting of a breast cancer cell, an ovarian cancer cell, a myeloma cancer cell, a lymphoma cancer cell, a melanoma cancer cell, a sarcoma cancer cell, a leukemia cancer cell, a retinoblastoma cancer cell, a hepatoma cancer cell, a glioma cancer cell, a mesothelioma cancer cell, and a carcinoma cancer cell.

17. **(Previously presented)** The method of claim 15, wherein the neoplastic cell is selected from the group consisting of a promyleocytic leukemia cell, a T lymphoblastoid cell, a breast epithelial cell, and an ovarian cell.

18. **(Previously presented)** The method of claim 10, wherein the patient is a human.

19. **(Previously presented)** The method of claim 18, wherein the patient is suffering from a disease or disorder caused by the presence of the multidrug resistant cell.

59. **(Previously presented)** A method for detecting whether a test cell is neoplastic comprising

a) measuring a level of cell surface-expressed vimentin protein in the test cell of a given origin or cell type, and

b) comparing the level of cell surface-expressed vimentin protein in the test cell to the level of cell surface-expressed vimentin in a nonneoplastic cell of the same origin or cell type,

wherein the test cell is neoplastic if the level of cell surface-expressed vimentin in the test cell is greater than the level of cell surface-expressed vimentin in the nonneoplastic cell of the same origin or cell type.

60. **(Previously presented)** The method of claim 59, wherein measuring the level of cell surface-expressed vimentin in the test cell comprises isolating a cytoplasmic membrane fraction from the cell and measuring the level of vimentin in the cytoplasmic membrane fraction.

61. **(Previously presented)** The method of claim 59, wherein measuring the level of cell surface-expressed vimentin in the test cell comprises contacting said cell with an anti-vimentin antibody and measuring the level of antibody bound to cell surface vimentin.

62. **(Previously presented)** The method of claim 61, wherein measuring the level of antibody bound to cell surface vimentin is by immunofluorescence emission.

63. **(Previously presented)** The method of claim 61, wherein measuring the level of antibody bound to cell surface vimentin is by radiolabel.

64. **(Previously presented)** The method of claim 59, wherein the test cell is from a tissue selected from the group consisting of blood, bone marrow, spleen, lymph node, liver, thymus, kidney, brain, skin, gastrointestinal tract, eye, breast, prostate, and ovary.

65. **(Previously presented)** The method of claim 59, wherein the nonneoplastic cell is from a tissue selected from the group consisting of blood, bone marrow, spleen, lymph node, liver, thymus, kidney, brain, skin, gastrointestinal tract, eye, breast, prostate, and ovary.

66. **(Previously presented)** A method for detecting a neoplastic cell in a patient comprising:

(a) administering to the patient, a vimentin binding agent operably linked to a detectable label; and

(b) detecting the label operably linked to the vimentin binding agent,

wherein the vimentin-binding agent specifically binds to cell surface-expressed vimentin present on a neoplastic cell in the patient.

68. **(Previously presented)** The method of claim 66, wherein the vimentin binding agent is selected from the group consisting of modified LDL, NLK1 protein, vimentin, desmin, glial fibrillary acidic protein, and peripherin, fimbrin, RhoA-binding kinase alpha, and protein phosphatase 2A.

70. **(Previously presented)** The method of claim 66, wherein the detectable label is selected from the group consisting of fluorophores, chemical dyes, radioactive compounds, chemoluminescent compounds, magnetic compounds, paramagnetic compounds, promagnetic compounds, enzymes that yield a colored product, enzymes that yield a chemoluminescent product, and enzymes that yield a magnetic product.

71. **(Previously presented)** The method of claim 66, wherein the neoplastic cell is selected from the group consisting of a breast cancer cell, an ovarian cancer cell, a myeloma cancer cell, a lymphoma cancer cell, a melanoma cancer cell, a sarcoma cancer cell, a leukemia cancer cell, a

retinoblastoma cancer cell, a hepatoma cancer cell, a glioma cancer cell, a mesothelioma cancer cell, and a carcinoma cancer cell.

72. **(Previously presented)** The method of claim 66, wherein the neoplastic cell is selected from the group consisting of a promyleocytic leukemia cell, a T lymphoblastoid cell, a breast epithelial cell, and an ovarian cell.

73. **(Previously presented)** The method of claim 66, wherein the patient is a human.

74. **(Previously presented)** The method of claim 73, wherein the patient is suffering from a disease or disorder caused by the presence of the neoplastic cell.